

Docket No. 4208-4008  
Serial No. 09/854,619  
Reply to non-final Office Action mailed on November 24, 2003

## **REMARKS**

### ***Status of the claims***

Upon entry of this amendment, claims 1-53 are pending in this application. Of these, claims 1, 5, 15, 25, 31, 32, 33, 45, and 53 are independent. Claims 1, 5, 32, and 39-44 are amended. Applicant believes that these changes introduce no new matter. Entry and consideration of this amendment are respectfully requested.

### ***Information Disclosure Statement***

An Information Disclosure Statement, accompanied by a Form PTO-1449 and one reference, was filed on November 17, 2003. Applicant requests that the Examiner send an initialed copy of the Form PTO-1449 with the next official communication.

### ***Objections to the Claims***

Claims 39-42 and 44 are objected to as being in improper form. The above claims have been amended. Accordingly, Applicant requests that this objection be withdrawn.

### ***Rejections under 35 U.S.C. § 112***

Claims 1, 5, and 32 are rejected under 35 U.S.C. § 112 as being allegedly indefinite. In particular, the Examiner asserts that the phrase “the user’s UDDI searching strategies”, as recited in claims 1 and 32, and the “user’s UDDI searching strategy”, as recited in claim 5, lack proper antecedent basis. Applicant respectfully disagrees that these claims are indefinite. However, these claims have been amended. Withdrawal of this rejection is respectfully requested.

### ***Rejections under 35 U.S.C. § 102***

Claims 33-34, 36-37, and 45-49 are rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by U.S. Patent Application Publication No. 2002/0107985 to

Hwang et al. ("Hwang"). Applicant respectfully traverses. In making this rejection, the Examiner points to particular portions of Hwang. For instance, the Examiner asserts on page 4 of the Office Action that Figure 2 of Hwang discloses an abbreviated input, as recited in independent claim 33.

Notwithstanding the merits of these assertions, the Examiner's attention is directed to the August 21, 2001 nonprovisional filing date of Hwang. This filing date is subsequent to the May 15, 2001 filing date of the instant application. However, paragraph [0001] of Hwang states that it claims priority to Provisional Application No. 60/228,182, filed on August 25, 2000. A copy of this provisional application is submitted herewith.

In order for the Hwang application to be applicable under 35 U.S.C. § 102(e), its effective filing date must be earlier than the May 15, 2001 filing date of the instant application. Accordingly, to have such an effective filing date, any disclosure relied upon by the Examiner must be supported by Provisional Application No. 60/228,182. *See* MPEP 706.

Provisional Application No. 60/228,182 includes a five-page specification that, on its face, does not disclose or suggest an abbreviated input, as recited in claims 33-34 and 36-37. In addition, this provisional application, on its face, does not disclose or suggest a search handle, as recited in claims 45-49. Accordingly, Applicant respectfully requests that this rejection be withdrawn. However, if the Examiner chooses to maintain this rejection, Applicant respectfully requests that any portions of Provisional Application No. 60/228,182 used to support the rejection are identified in the next official communication.

***Rejections under 35 U.S.C. § 103***

Claims 1-4, 32, 35, and 50 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Hwang in view of U.S. Patent Application Publication No. 2003/0004746 to Kheiolomoom et al. ("Kheiolomoom"). Applicant respectfully traverses this rejection. These claims recite features involving abbreviated inputs. The

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Examiner asserts on page 5 of the Office Action that Hwang discloses this feature. However, as stated above, Provisional Application No. 60/228,182, on its face, neither discloses nor suggests this feature. Accordingly, Applicant requests that this rejection be withdrawn.

Claims 38, 43, 51-52 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Hwang in view of U.S. Patent Application Publication No. 2003/0061211 to Shultz et al. ("Shultz"). Applicant respectfully traverses this rejection. Claims 38 and 43 depend from independent claim 33, and claims 51-52 depend from independent claim 45. Accordingly, Applicant requests that this rejection be withdrawn for at least the reasons set forth above.

Claims 5-31 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Hwang in view of Kheirloom and further in view of Shultz. Claims 5-31 include independent claims 5, 15, 25, and 31, which recite features involving the entry of query terms. On page 8 of the Office Action, the Examiner asserts that Hwang discloses such features. However, Provisional Application No. 60/228,182, on its face, neither discloses nor suggests the entry of queries. Accordingly, Applicant requests that this rejection be withdrawn.

### **CONCLUSION**

In view of the above, Applicant respectfully submits that all of the stated grounds of rejection and objection have been properly traversed, accommodated or rendered moot. Thus, Applicants believe that the present application is in condition for allowance, and as such, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejections and objections, and allowance of this application.

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**AUTHORIZATION**

A check in the amount of \$950.00 is enclosed for covering the fees for a three-month extension of time. The Commissioner is also authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. 13-4503, Order No. 4208-4008.

Respectfully submitted,  
MORGAN & FINNEGAN

Dated: May 24, 2004

Mailing Address:  
MORGAN & FINNEGAN  
345 Park Avenue  
New York, New York 10154

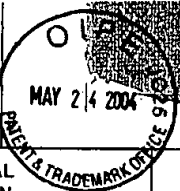
By:



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PROVISIONAL  
APPLICATION  
NUMBER



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INITIALS: R.D. 9/2/09



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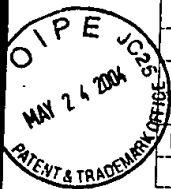
# CONTENTS

Date Received or Mailed

1. Application papers

2. Request for access 2/02/09

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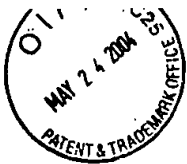


Bib Data Sheet

SERIAL NUMBER 60/228,182	FILING DATE 08/25/2000 RULE -	CLASS -	GROUP ART UNIT -	ATTORNEY DOCKET NO. WPHOP002+	
<b>APPLICANTS</b> Peter Shieh, Foster City, CA ; Jack Hwang, Sunnyvale, CA ; Felix Wu, San Jose, CA ; Peter Lyui, Foster City, CA ;  <b>** CONTINUING DATA *****</b>  <b>** FOREIGN APPLICATIONS *****</b>  <b>IF REQUIRED, FOREIGN FILING LICENSE</b> <b>GRANTED ** 11/09/2000</b>					
Foreign Priority claimed <input type="checkbox"/> yes <input type="checkbox"/> no 35 USC 119 (a-d) conditions <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after met Allowance		STATE OR COUNTRY CA	SHEETS DRAWING 4	TOTAL CLAIMS -	INDEPENDENT CLAIMS -
Verified and Acknowledged Examiner's Signature Initials					
<b>ADDRESS</b>  21912					
<b>TITLE</b>  Providing data services via wireless mobile devices					
<b>FILING FEE RECEIVED 150</b>	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees		
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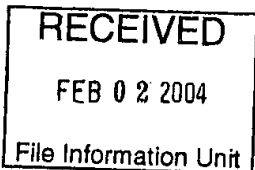


PTO/US 61-07-003  
Approved for use through 7/31/2004, OMB 0551-0002  
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

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# REQUEST FOR ACCESS TO AN ABANDONED APPLICATION UNDER 37 CFR 1.14

Bring completed form to:  
File Information Unit  
Crystal Plaza Three, Room 1D01  
2021 South Clark Place  
Arlington, VA  
Telephone: (703) 305-2733



Inventor Application of

Application Number

Filed

60/278,182

8/25/02

Page No.

#2

I hereby request access under 37 CFR 1.14(a)(1)(iv) to the application file record of the above-identified ABANDONED application, which is identified in, or to which a benefit is claimed, in the following document (as shown in the attachment):

United States Patent Application Publication No. \_\_\_\_\_, page \_\_\_\_\_, line \_\_\_\_\_

United States Patent Number \_\_\_\_\_, column \_\_\_\_\_, line \_\_\_\_\_, or

WIPO Pub. No. \_\_\_\_\_, page \_\_\_\_\_, line \_\_\_\_\_

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## Related Information about Access to Pending Applications (37 CFR 1.14):

Direct access to pending applications is not available to the public but copies may be available and may be purchased from the Office of Public Records upon payment of the appropriate fee (37 CFR 1.19(b)), as follows:

For published applications that are still pending, a member of the public may obtain a copy of:

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- the pending application as originally filed; or
- any document in the file of the pending application.

For unpublished applications that are still pending:

- (1) If the benefit of the pending application is claimed under 35 U.S.C. 119(a), 120, 121, or 365 in another application that has: (a) issued as a U.S. patent, or (b) published as a statutory invention registration, a U.S. patent application publication, or an international patent application publication in accordance with PCT Article 21(2), a member of the public may obtain a copy of:
  - the file contents;
  - the pending application as originally filed; or
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- (2) If the application is incorporated by reference or otherwise identified in a U.S. patent, a statutory invention registration, a U.S. patent application publication, or an international patent application publication in accordance with PCT Article 21(2), a member of the public may obtain a copy of:
  - the pending application as originally filed.

*J. W. Langford*  
Signature

5/2/04  
Date

Floyd Langford  
Typed or printed name

Registration Number, if applicable

202-302-1560

Telephone Number

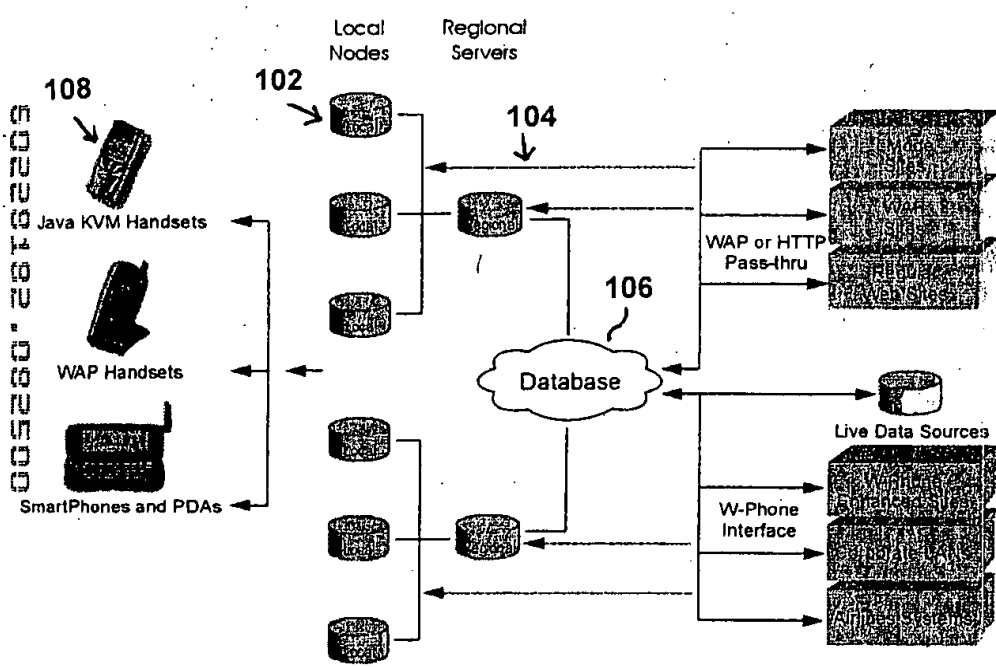
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*P. J. Kennedy*  
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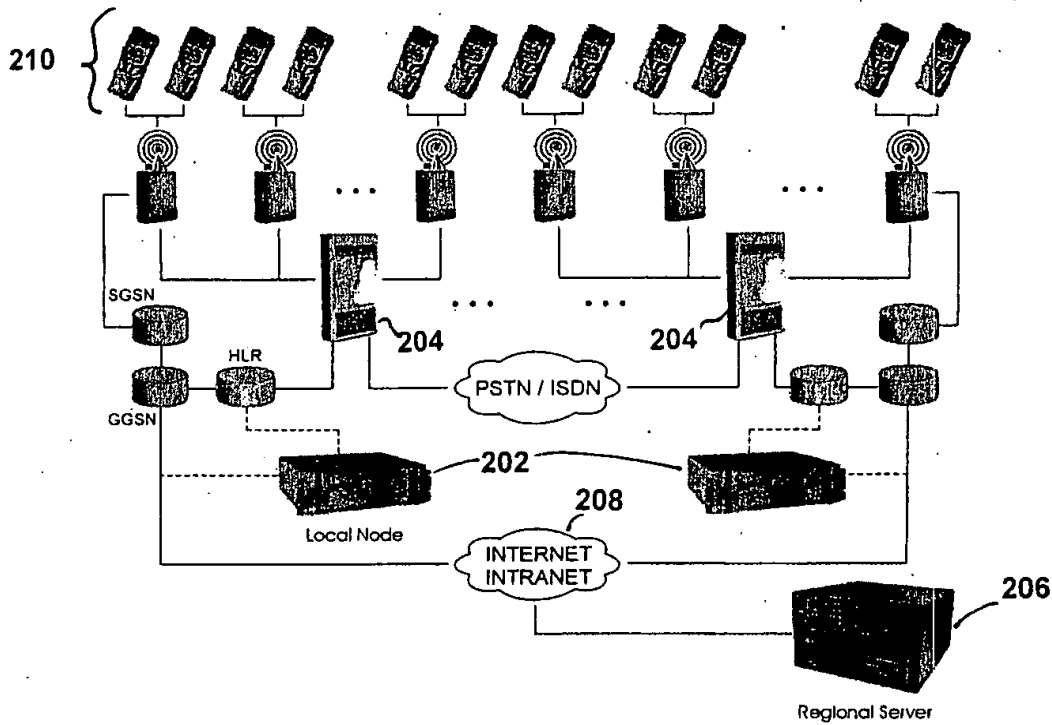
This collection of information is required by 37 CFR 1.14. The information is required to obtain or retain a benefit by the public without fee, and provide USPTO access to an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 10 minutes to complete, including the time to fill out the application form to the USPTO. Time will vary depending upon the individual case. Any comments on the collection should be directed to the USPTO. Time will vary depending upon the individual case. Any comments on the collection should be directed to the USPTO.



Overview of MobileFramework Architecture

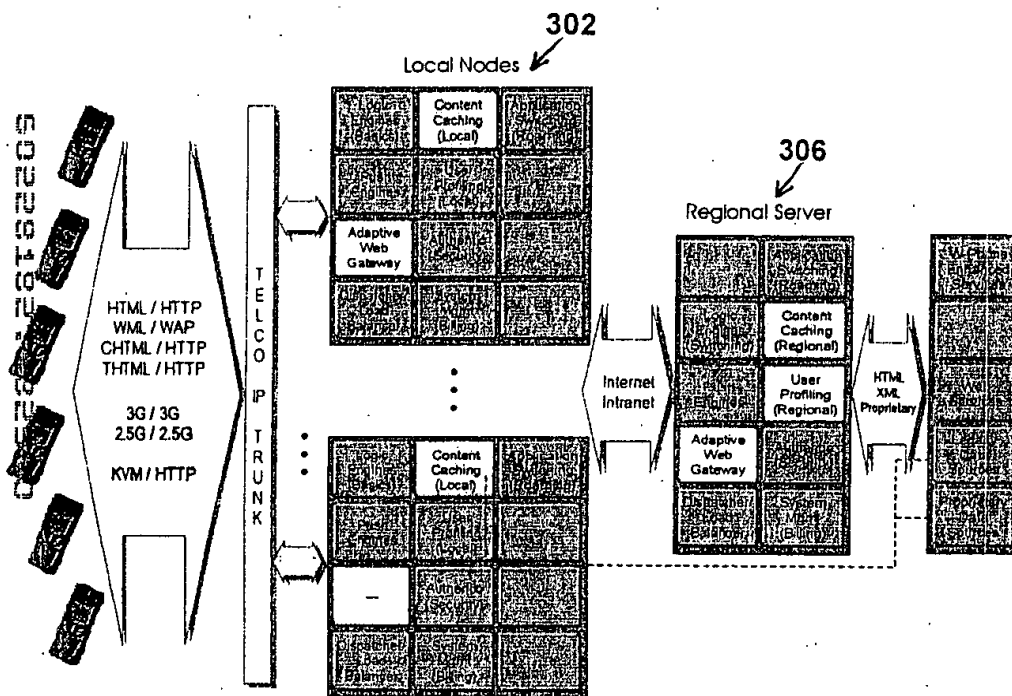
Fig. 1

COINTEGRATION, COINTEGRATION



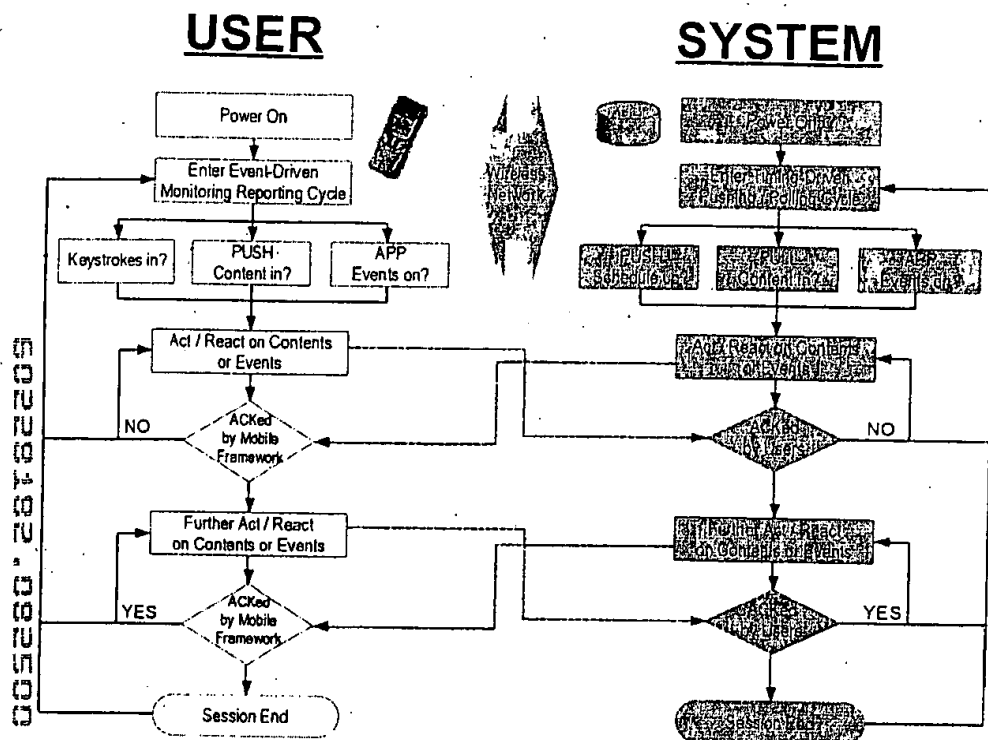
Example of MobileFramework Integrated with a Typical GPRS Network

Fig. 2



Modules in the MobileFramework architecture allocate and mirror software functionality.

Fig. 3



MobileFramework Implements PUSH / PULL interaction logic for all data services.

Fig. 4



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## IN THE U.S. PATENT AND TRADEMARK OFFICE

Provisional Application Cover Sheet

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Sir:

This is a request for filing a PROVISIONAL APPLICATION under 37 CFR 1.53 (b)(2).

## INVENTOR(s)/APPLICANT(s)

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## TITLE OF THE INVENTION

PROVIDING DATA SERVICES VIA WIRELESS MOBILE DEVICES

## CORRESPONDENCE ADDRESS

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## ENCLOSED APPLICATION PARTS (check all that apply)

- (X) Specification      Number of Pages 5      ( ) Small Entity Statement  
(X) Drawing(s)      Number of Pages 4  
( ) Power of Attorney  
( ) Additional inventors are being named on separately numbered sheets attached hereto.

## METHOD OF PAYMENT

A check in the amount of \$150.00 to cover the filing fee is enclosed.

At any time during the pendency of this application, please charge any fees required or credit any overpayment to  
Deposit Account No. 50-0685 (Order No. WPHOP002+).

Respectfully submitted,

William J. James  
Attorney for Applicant(s)  
Reg. No. 40661

Date: August 25, 2000

Telephone No.: 650-903-3500

Express Mail Label No. EL621884218USDate of Deposit: August 25, 2000I hereby certify that this is being deposited with the United States  
Postal Service 'Express Mail Post Office to Addressee' service under  
37 CFR 1.10 on the date indicated above and is addressed to the  
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60228182-002500



Attorney Docket No. WPHOP002+

APPLICATION FOR UNITED STATES PROVISIONAL  
PATENT

**PROVIDING DATA SERVICES VIA WIRELESS**  
**MOBILE DEVICES**

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60228182-082500





# PROVIDING DATA SERVICES VIA WIRELESS

## MOBILE DEVICES

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### 1. BACKGROUND OF THE INVENTION:

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The present invention relates to the field of using wireless phones or mobile phones for timely retrieval of content, such as for electronic commerce purposes. Mobile phones are mostly limited by screen space, data entry capabilities, data processing, limited memory, and limited transmission bandwidth. Current user interfaces widely used on personal computers are too complicated to be used to browse the Internet using a mobile device.

W-Phone's system architecture provides a solution to next generation wireless needs and enables network operators to implement wireless data services as wireless application service providers. The architecture includes wireless communications and digital signal processing (WDSP) nodes and regional WDSP nodes. The regional WDSP nodes provide a browsing function for static content and have network computing capability to provide integrated data and content from content or service providers on the Internet and distribute such content properly to the local WDSP nodes. The local WDSP nodes may interact with other local WDSP nodes or with the regional WDSP nodes to provide personalized commerce or entertainment service capabilities for real time interaction, global access, and roaming. W-Phone's MobileFramework™ is a network of application server platforms targeted for existing wireless data and upcoming third generation (3G) networks that will provide wireless carriers with advanced wireless data capabilities for dynamic and large volume usage in a real-time environment.

MobileFramework is designed for 2.5G and 3G wireless data networks. It is designed in part on the premise that personalized traffic characteristics are unpredictable, stochastic, or random by nature. The design of the MobileFramework architecture supports deterministic response times and controllability to provide optimized throughput and reduced delay. MobileFramework supports both existing and future voice network architectures that serve large volume usage and real-time applications.

MobileFramework servers are also wireless application protocol (WAP) compliant gateways and are compatible with the entire existing wireless infrastructure such as Time Division Multiple Access (TDMA), Coded Division Multiple Access (CDMA), and the

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Global System for Mobile Communications (GSM). As a result, wireless carriers and content service providers will benefit as the industry continues to evolve without the need for large-scale equipment changes.

MobileFramework can support various types of mobile devices, including but not limited to WAP phones, I-Mode phones, Smart Phones, and Java Phones. On the server side, it can communicate with WAP sites, I-Mode sites, and regular Web sites, as well as sites using W-Phone open and standard interfaces.

## 2. SUMMARY OF THE INVENTION:

Figure 1 is a schematic diagram of the Mobile Framework architecture as implemented in one embodiment. W-Phone's MobileFramework network at the physical level is comprised of multiple local nodes 102, one or multiple regional servers 104, and centralized database resources 106, all of which can be configured as needed to meet the requirements of the wireless service provider and subscriber population base which accesses the network using mobile devices 108.

Figure 2 is a schematic diagram of an exemplary embodiment in which a General Packet Radio Service (GPRS) network is integrated with the MobileFramework architecture. A local node 202 is connected to one or multiple Mobile Switching (MSC) Centers 202 of a cellular phone network. A regional server 206 is connected to multiple local nodes 202 through an intranet 208. Local nodes 202 serve the mobile subscribers 210 covered by MSCs 204 while regional servers such as regional server 206 are mainly responsible for coordinating the local nodes 202 and serving the mobile subscribers. Local nodes 202 can also operate independently, with each node service up to the 64,000 to 100,000 mobile users covered by an MSC.

The following elements of a typical GPRS network also are shown in Fig. 2 and function in the manner well known in the art:

SGSN: Serving GPRS Support Node

HLR: Home Location Register

GGSN: Gateway GPRS Support Node

PSTN: Public Switched Telephone Network

ISDN: Integrated Service Digital Network

### 3. W-PHONE SYSTEM ARCHITECTURE- MobileFramework™

As shown in Figure 3, both the local nodes 302 and regional servers 306 consist of several functional software modules, including a Dispatcher/Load Balancer, an Adaptive Web Gateway, a Push Engine, multiple Application Engines, a System Management and Billing module, an Application Switching/Roaming Engine, an Authentication and Security Engine, a User Profiling Engine, and Content and Caching Servers.

The regional servers are primarily responsible for integrating data and contents from content or service providers on the Internet and properly distributing them to the local nodes. The local nodes, in turn, may interact with the regional servers or other local nodes to provide personalized commerce or entertainment services capabilities for real-time interaction, global access and roaming.

#### 3.1 *Content Classes and Interaction Logic*

Among the key constructs of the MobileFramework architecture that underlie its enhanced performance in a dynamic, real-time, distributed and large-scale network are the concepts of *content classes* and *interaction logic*. The design of MobileFramework directly incorporates the results of considering the effects of these factors, described in following sections, on system performance.

#### 3.2. *Content Classes*

The concept of content classes is used to partition a broad domain of data types. Content classes in the MobileFramework schema are defined in three categories: real-time alerts and data (e.g., electronic alarms and stock quotes), near real-time media (e.g., images or short video) and non-real-time media (e.g., historic data). This partitioning of content classes defines the way they are cached and updated in the local nodes and regional servers, and the three classes constitute the information services to be delivered to mobile users or their corresponding agents (e.g., computers). Contents may be delivered to mobile phone users in a point-to-point, point-to-multipoint, or broadcast manner.

For performance reasons, real-time alerts and data are commonly fed *directly* to local nodes (rather than to regional servers) for caching and updates from data sources (e.g., a stock brokerage database) or mobile phones as shown by the dotted line in the preceding figure. This direct feed also provides additional benefits:

easier to obtain first-hand data at the local nodes in real-time,  
easier to achieve real-time services when content caching is closest to the mobile phones,  
easier to implement and maintain a unified database structure across the network,  
easier to implement a fully distributed network, and  
easier to implement content-sensitive and location-specific services for localization.

The classes of near real-time media and non-real-time media may be collected by and distributed from the regional servers when performance is not a concern. It is also possible to implement content caching in mobile phones.

### 3.3. *Interaction Logic*

In one embodiment, data services for mobile phones for data services are in an 80% "push" mode of data from local nodes to mobile phones, and a 20% "pull" mode by the mobile phones for retrieval of content from the nodes. These actions of "pushing" and "pulling" data constitute the interaction logic of the wireless data services, and it is assumed that most wireless data applications and services can be defined in the form of these simple interactions.

Figure 4 is a flowchart illustrating an example of the interaction logic with respect to exemplary interactions between a user and a MobileFramework System.

In engineering terms, the "push" mode is the equivalent of the Timing-Driven paradigm implemented in a Pushing/Polling mode by the local node (as a master), while the "pull" mode is the equivalent of the Event-Driven paradigm implemented in a Monitoring/Reporting mode by the mobile phones (as clients). The interaction logic is also implemented based on personalized user profiles that are defined by means of a User Data Service Portal (UDSP) application.

The use of content classes and interaction logic in a typical "push-pull" cycle is exemplified in the case of a real-time alert "pushed" by a local node to a handset, followed by a "Yes / No / No Comment" response from the handset (comprising the "pull" request), with the Local node responding with a final "push" of data to the handset, where the data, if required for a real-time response, is stored in the local node's memory or cached on its hard disk (e.g., in the case of imagery).

Dynamic Application Switching, based on predictive user profiling technology, is an innovative and powerful technique of network computing that is used within the MobileFramework architecture to optimize both the *application intelligence* of the network and its content-caching memory storage, CPU power and bandwidth requirements. Dynamic Application Switching can be done in a proactive manner because wireless data services for mobile phones are most likely to be "push" rather than "pull" services. This provides the following benefits:

delivery of large traffic volumes in real time  
providing logic for interactive applications  
reduction of communication overhead.

Additionally, in order to achieve scalability, CPU power can be allocated to an application according to the number of active subscribers.

Mobile phone users create the individual user profiles upon which Dynamic Application Switching is based by subscribing to a MobileFramework default service and then prescribing and personalizing their services on a daily, weekly, monthly, or yearly basis. Alternatively, subscribers may also make changes to user profiles anytime and anywhere through an Internet application service portal. The user profiles are stored in local nodes as well as on regional servers. A user interface and paradigm used in one embodiment to permit users to create or change their user profile is described in copending U.S. Provisional Application No. 60/200,818, entitled "User Interaction Paradigm for Mobile Phones and Compact Digital Devices, filed April 28, 2000, and incorporated herein by reference for all purposes.

Based on both its dynamic application switching capabilities and personalized user profiles, MobileFramework is capable of providing intelligent services such as global access, roaming, instant messaging, real-time trading and transaction or follow-me services. Exemplary services are described in copending U. S. Provisional Application No. 60/200,818, incorporated herein by reference above.